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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,781	09/18/2001	Steven P. Rosenberg	0730.0040C	9340

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EXAMINER

LISH, PETER J

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 11/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/936,781

Applicant(s)

ROSENBERG ET AL.

Examiner

Peter J Lish

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 21-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 14, 21, 23-24, 26-39, and 41-53 is/are rejected.
- 7) ☒ Claim(s) 22, 25, 40 and 54 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14 and 53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 recites "the clarified liquor is cooled... prior to said step of removing the aluminate ions", however, the clarified liquor is produced after the step of removing the aluminate ions. It is unclear as to what the "clarified liquor" refers.

Claim 53 recites the limitation "the recovered carbonate-bearing hydrocalumite". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 23, 27-39, and 41-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matyasi et al. (US 4,335,082) taken with Cristol et al. (AU-A-32197/93).

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Matyasi teaches a process for the removal of impurities, such as sodium carbonates and sodium oxalates, from a process liquor of the Bayer cycle for the production of alumina from bauxite. Matyasi teaches that large amounts of carbonates present in the liquor are removed prior to the removal of organic substances such as sodium oxalates, because the carbonates would cause problems, such as plugging, in the evaporation step and additionally because precipitating simultaneously would make the organic substances difficult to separate from the primarily carbonate solids (column 2, lines 55-64). The sodium carbonate is therefore separated through the addition of lime under intense stirring at a temperature of about 70-100 °C to form carbonate-bearing solids (column 4, lines 5-12). The removed solids are thus expected to be composed of primarily calcium carbonate. Matyasi teaches that following the removal of carbonate-bearing solids, the organic substances, such as oxalates, are removed by a process comprising caustification with lime, evaporation to a total sodium concentration of between 200-400 g/L, and precipitation and removal of the solid material (column 2, lines 40-48). Matyasi does not specifically teach the addition of extra lime (after the carbonate removal stage) to precipitate oxalates.

Cristol et al. teach a process of the removal of sodium oxalates from a Bayer cycle process liquor. The process comprises evaporating to a total sodium concentration of between 170 and 250 g/L and introducing lime into the liquor while maintaining an agitated state to form a highly homogenous dispersion of lime. The liquor is cooled to a temperature of between 40 and 60 °C. After being kept in an agitated state for more than one hour, the solid phase is separated by filtration. It would have been obvious to one of ordinary skill at the time of invention to perform the oxalate removal process of Cristol et al. (i.e. addition of lime to a cooled

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liquor) in place of the process for removing oxalates of Matyasi et al., in order to remove a higher amount of sodium oxalate impurities.

Regarding claims 27-28, it would have been obvious to one of ordinary skill at the time of invention to perform the purification process of Matyasi et al. taken with Cristol et al. on a Bayer process liquor having any initial 'S' concentration, so long as the removal of carbonates and oxalates was desired.

Regarding claim 38, Cristol et al. teaches that the solids precipitated from the oxalate removal process are dried to recover the maximum amount of impregnation liquor. It is not explicitly taught that the solids are washed and dried, however, it would have been obvious to one of ordinary skill at the time of invention to perform a washing stage in addition to a drying stage in order to recover the maximum amount of impregnation liquor.

Regarding claim 39, while it is not explicitly taught that the solids include sulphate-bearing hydrocalumite, it is expected that this be the case, as no difference is seen between the instantly claimed invention and that of the Matyasi et al. taken with Cristol et al.

Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matyasi et al. taken with Cristol et al. as applied to claim 21 above, and further in view of Yamada et al. (US 3,899,571).

Yamada et al. teaches a process for the removal of sodium oxalate from a process liquor of the Bayer cycle for the production of alumina from bauxite. The process comprises adding sodium oxalate seed crystals to the liquor, in which sodium oxalate is supersaturated, such as by evaporation. It would have been obvious to one of ordinary skill at the time of invention to

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apply the seed crystals of Yamada et al. in the oxalate removal process of Cristol et al., in order to further enhance the amount of oxalate removed.

Allowable Subject Matter

Claims 22, 25, 40, and 53-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 1-13 are allowed. Reasons for allowance may be found in the previous Office action.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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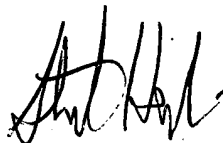
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Lish whose telephone number is 703-308-1772. The telephone number after December 15, 2003 will be changed to (571) 272-1354. The examiner can normally be reached on 9:00-6:00 Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 703-308-3837. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

PL



STUART L. HENDRICKSON
PRIMARY EXAMINER